

WHAT IS CLAIMED IS:

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1. A wireless acoustic receiving device, comprising:
wireless transmission means for transmitting a service request signal to request the desired acoustic signal;
wireless receiving means for receiving a transmission signal containing the acoustic signal to be transmitted responding to the service request signal;
demodulation/decoding means for applying the demodulation and/or decoding processing to the receiving signal transmitted from the wireless receiving means; and
electro-acoustic transform means for transforming the acoustic signal restored by the demodulation/decoding means to a sound wave to be output.

2. The wireless acoustic receiving device according to claim 1, wherein
the electro-acoustic transform means is formed of at least two or more electro-acoustic transform elements and outputs the acoustic signal in stereo sound.

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3. The wireless acoustic receiving device according to claim 1, wherein
the demodulation/decoding means comprises:
decoding means for separating main information and sub information from the receiving signal;

feature information restoring means for restoring feature information from the sub information;

information restoring means for conducting the restoration processing of the main information using the feature information restored by the feature information restoring means; and

information source decoding means for restoring the acoustic signal upon decoding output signal of the information restoring means.

4. The wireless acoustic receiving device according to claim 3, wherein

the demodulation/decoding means further comprises deinterleave means for returning the data order of the main information to the initial state.

5. The wireless acoustic receiving device according to claim 3, wherein

the information source decoding means decodes the acoustic signal by conducting the discrete cosine inverse transform processing to the output signal.

6. The wireless acoustic receiving device according to claim 3, wherein

the information source decoding means restores the

acoustic signal by conducting the inverse high-velocity Fourier transform processing to the output signal.

7. A vehicle-loaded acoustic device, comprising:

wireless transmission means for transmitting a service request signal to request the desired acoustic signal;

wireless receiving means for receiving transmission signal containing the acoustic signal to be transmitted responding to the service request signal;

demodulation/decoding means for restoring the acoustic signal by applying the demodulation and/or decoding processing to the receiving signal transmitted from the wireless receiving means; and

electro-acoustic transform means having at least two or more electro-acoustic transform elements, for transforming the acoustic signal restored by the demodulation/decoding means to a sound wave to be output in stereo sound.

8. The vehicle-loaded acoustic device according to claim 7, further comprising

display means for displaying the information concerning the acoustic signal to be received.

9. The vehicle-loaded acoustic device according to claim 8, further comprising

remote control means in which control data for operation control is entered through the remote control means.

10. The vehicle-loaded acoustic device according to claim 9, wherein

the remote control means transmits the control data via infrared ray.

11. The vehicle-loaded acoustic device according to claim 8, further comprising

television broadcasting receiving means in which the information concerning the acoustic signal to be received and images of television broadcasting received at the television broadcasting receiving means are simultaneously, or upon switching these, displayed on the display means.

12. The vehicle-loaded acoustic device according to claim 8, further comprising

the present position locating means in which the information concerning the acoustic signal to be received and the information concerning the present position locating means are simultaneously, or upon switching these, displayed on the display means.

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13. The vehicle-loaded acoustic device according to claim 7, wherein

the wireless transmission means, the wireless receiving means and the demodulation/decoding means are equipped with components removable and they can be used as communication equipment after they are removed.

14. A portable acoustic output device, comprising:

wireless transmission means for transmitting a service request signal to request the desired acoustic signal;

wireless receiving means for receiving a transmission signal containing the acoustic signal to be transmitted responding to the service request signal;

demodulation/decoding means for restoring the acoustic signal upon applying the demodulation and/or decoding processing to the receiving signal transmitted from the wireless receiving means;

electro-acoustic transform means having at least two or more electro-acoustic transform elements, for transforming the acoustic signal restored by the demodulation/decoding means to a sound wave to be output in stereo sound; and
a battery for driving.

15. The portable acoustic output device according to claim 14, wherein

the electro-acoustic transform element possessed by the electro-acoustic transform means is human body attachable.

16. The portable acoustic output device according to claim 15, further comprising

operating means for inputting control data in the case of receiving the acoustic signal.

17. The portable acoustic output device according to claim 16, wherein

the operating means comprises operation keys for inputting the control data regarding telephone communications.

18. The portable acoustic output device according to claim 16, wherein

the operating means comprises rotary push type operation keys.

19. The portable acoustic output device according to claim 16, wherein

the operating means comprises moving round push type operation keys.

20. The portable acoustic output device according to claim

16, wherein

the operating means comprises a plurality of pushing switches.

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21. The portable acoustic output device according to claim 16, wherein

the electro-acoustic transform means is connected to the main case in which the wireless transmission means, the wireless receiving means and the demodulation/decoding means are stored via cable, and the operating means is placed on the cable.

22. The portable acoustic output device according to claim 16, further comprising

display means for displaying information regarding the ~~acoustic signal to be received.~~

23. The portable acoustic output device according to claim 22, wherein

the display means also displays information regarding telephone conversation.

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24. The portable acoustic output device according to claim 22, wherein

the electro-acoustic transform means is cable connected

to the main unit case in which the wireless transmission means, the wireless receiving means and the demodulation/decoding means are stored, and the display means is placed on the cable.

25. The portable acoustic output device according to claim 24, wherein

the display means is formed integral with the operating means.

26. The portable acoustic output device according to claim 24, comprising:

weak information transmission means for transmitting the acoustic signal restored by the demodulation/decoding means;

weak information receiving means for receiving the acoustic signal transmitted by the weak information transmission means and for supplying to the electro-acoustic transform means; and wherein

the acoustic signal is supplied to the electro-acoustic transform means via non-cable connection.

27. The portable acoustic output device according to claim 26, wherein

the weak information transmission means transmits the

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acoustic signal using an electromagnetic wave.

28. The portable acoustic output device according to claim 27, wherein

the electromagnetic wave is in the frequency band over 10 MHz and below 1 GHz.

29. The portable acoustic output device according to claim 27, wherein

the weak information receiving means transmits control data input from the predetermined operation means in utilizing the electromagnetic wave, and the weak information transmission means receives the control data transmitted from the weak information receiving means and outputs to the predetermined control means.

30. A wireless information retransmission device, comprising:

wireless transmission means for transmitting a service request signal to request the desired acoustic signal;

wireless receiving means for receiving a transmission signal containing the acoustic signal to be transmitted responding to the service request signal;

demodulation/decoding means for restoring the acoustic signal by applying the demodulation and/or decoding

processing to the receiving signal transmitted from the wireless receiving means;

re-modulation means for re-modulating and transmitting the acoustic signal transmitted from the demodulation/decoding means; and

retransmission means for retransmitting the output signal of the re-modulation means.

31. The wireless information retransmission device according to claim 30, wherein

the re-modulation means conducts the frequency modulation to the acoustic signal.

32. The wireless information retransmission device according to claim 30, wherein

the retransmission means transmits the output signal using an electromagnetic wave with the frequency band over 10 MHz and below 1 GHz.

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33. A portable acoustic output communication device, comprising:

wireless transmission means for transmitting a service request signal to request the desired acoustic signal;

wireless receiving means for receiving a transmission signal containing the acoustic signal to be transmitted

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responding to the service request signal;

demodulation/decoding means for restoring the acoustic signal by applying the demodulation and/or decoding processing to the receiving signal sent out from the wireless receiving means;

electro-acoustic transform means having at least two or more human body-attachable type electro-acoustic transform elements, for transforming the acoustic signal restored by the demodulation/decoding means to a sound wave and outputting in stereo sound; and

a battery for driving; and wherein

while a telephone call is in progress, the vibrations of a part of human body or the voice of a sender is detected by the electro-acoustic transform element of the electro-acoustic transform means to form audio signal and the audio signal is transmitted via the wireless transmission means, and the audio signal from the other party of the call is received by the wireless receiving means to be output this from the electro-acoustic transform element of the electro-acoustic transform means, so that both the sound receiving and the telephone call can be conducted.

34. The portable acoustic output communication device according to claim 33, wherein

while a telephone conversation is in progress, the

audio signal to be supplied to the electro-acoustic transform element and the audio signal to be supplied to the wireless transmission means from the electro-acoustic transform elements are time division transmitted.

35. An automobile comprising:

wireless transmission means for transmitting a service request signal to request the desired acoustic signal;

wireless receiving means for receiving a transmission signal containing the acoustic signal to be transmitted responding to the service request signal;

demodulation/decoding means for restoring the acoustic signal by applying the demodulation and/or decoding processing to the receiving signal sent out from the wireless receiving means; and

electro-acoustic transform means having at least two or more electro-acoustic transform elements, for transforming the acoustic signal restored by the demodulation/decoding means to a sound wave and outputting it in stereo sound.

36. The automobile according to claim 35, further comprising

display means and the present location locating means, wherein the information regarding the acoustic signal to be received and the information concerning the present position

locating means are simultaneously, or upon switching them, displayed on the display means.

37. An information transmission device comprising:

information source coding means for information source coding the input signal;

feature extracting means for extracting the feature information of the input signal;

quantization means for vector quantizing the output data of the information source coding means using the feature information extracted by the feature extracting means;

modulation means for modulating the output signal of the quantization means;

wireless transmission means for transmitting the output signal of the modulation means to a terminal device;

wireless receiving means for receiving the output signal from the terminal device; and

demodulation means for applying the demodulation and/or decoding processing to the receiving signal sent out from the wireless receiving means; and wherein

the contents of the input signal are changed based on the contents of output signal of the demodulation/decoding means.

38. The information transmission device according to claim 37, comprising:

interleave means for sorting the output data sent out from the information source coding means; and

weight function forming means for forming a weight function from the feature information extracted by the feature information extracting means.

39. The information transmission device according to claim 37, wherein

the information source coding means conducts the discrete cosine transform processing to the input signal.

40. The information transmission device according to claim 37, wherein

the information source coding means conducts the high velocity Fourier transform processing to the input signal.

41. A wireless acoustic receiving method, comprising the steps of:

transmitting a service request signal for requesting the desired acoustic signal;

receiving a transmission signal containing the desired acoustic signal to be transmitted responding to the service request signal;

restoring the acoustic signal by applying the demodulation and/or decoding processing to the received signal; and

outputting the restored acoustic signal upon transforming to a sound wave.

42. The wireless acoustic receiving method according to claim 41, further comprising the step of

displaying the information regarding the acoustic signal received.

43. A wireless acoustic receiving method, comprising the steps of:

separating main information and sub information from the receiving signal;

restoring feature information from the sub information; and

restoring the main information using the restored feature information, and by information source decoding the restoration result, restoring the acoustic signal from the receiving signal.

44. The wireless acoustic receiving method according to claim 43, wherein

conducts the discrete cosine inverse transform

processing as the information source decoding.

45. The wireless acoustic receiving method according to claim 43, wherein

the inverse high velocity Fourier transform processing is conducted as the information source decoding.

46. A wireless acoustic receiving method, comprising the steps of:

transmitting a service request signal to request the desired acoustic signal;

receiving a transmission signal containing the acoustic signal to be transmitted responding to the service request signal;

restoring the acoustic signal by applying the demodulation and/or decoding processing to the receiving signal received;

retransmitting the restored acoustic signal upon re-modulating; and

receiving the retransmitted acoustic signal to be demodulated and transforming the acoustic signal to a sound wave to be output.

47. The wireless acoustic receiving method according to claim 46, wherein

the frequency modulation is conducted to the acoustic signal as the re-modulation.

48. A wireless information retransmission method, comprising the steps of:

transmitting a service request signal to request the desired acoustic signal;

receiving a transmission signal containing the acoustic signal to be transmitted responding to the service request signal;

restoring the acoustic signal by applying the demodulation and/or decoding processing to the receiving signal received; and

retransmitting the restored acoustic signal upon re-modulating.

49. The wireless information retransmission method according to claim 48, wherein

the frequency modulation is conducted to the acoustic signal as the re-modulation.

50. A portable acoustic output communication method, comprising the steps of:

transmitting a service request signal to request the desired acoustic signal;

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receiving transmission signal containing the acoustic signal to be transmitted responding to the service request signal;

restoring the acoustic signal by applying the demodulation and/or decoding processing to the receiving signal received;

transforming the restored acoustic signal to a sound wave using the predetermined electro-acoustic transform element and outputting this; and

during a telephone conversation, detecting the vibration of a part of human body or the voice of a sender by the electro-acoustic transform element to form the audio signal to be output, and receiving audio signal from the other party to output this from the electro-acoustic transform element.

51. The portable acoustic output communication method according to claim 50, wherein

the output of the audio signal by the electro-acoustic element and the formation of the audio signal are conducted using the time division system.

52. An information transmission method, comprising the steps of:

information source coding the input signal, and

extracting the feature information of the input signal;

conducting the vector quantization onto the output data based on the information source coding in utilizing the feature information;

modulating an output signal based on the vector quantization, and transmitting it to a terminal device;

receiving transmission signal from the terminal device;
and

restoring the data transmitted from the terminal device after applying the demodulation and/or decoding processing to the receiving signal received, and changing the contents of the input signal based on the contents of the data.

53. The information transmission method according to claim 52, wherein

the discrete cosine transform processing is conducted to the input signal as the information source coding.

54. The information transmission method according to claim 52, wherein

the high velocity Fourier transform processing is conducted to the input signal as the information source coding.

55. A music transmission method, comprising the steps of:

receiving a request signal from the terminal device;
if the request signal is the first type signal,
transmitting musics in the order predetermined at the
transmitting end; and

if the request signal is the second type signal,
transmitting an optional music upon selecting from among the
predetermined music group.

56. The music transmission method according to claim 55,
wherein

if the request signal is the third type signal, the
music determined at the terminal device side is transmitted.

57. The music transmission method according to claim 55,
wherein

the music group is comprised of the music group
excluding musics transmitted in the past.

58. The music transmission method according to claim 55,
wherein

the music group is comprised of the music group
excluding musics transmitted within a fixed time period in
the past.

59. A music transmission method, comprising the steps of:

receiving a request signal from the terminal device;
if the request signal is the first type signal,
transmitting musics in the order predetermined at the
transmitting end; and

if the request signal is the second type signal,
transmitting music determined at the terminal device side.

60. A music transmission device, comprising:

receiving means for receiving a request signal from the
terminal device; and

music information transmission means which transmits
musics in the order predetermined if the request signal is
the first type signal, and transmits the music after
selecting an optional music from among the prescribed music
group if the request signal is the second type signal.

61. The music transmission device according to claim 60,
wherein

the music group is comprised of the music group
excluding musics transmitted in the past.

62. The music transmission device according to claim 60,
wherein

the music group is comprised of the music group
excluding musics transmitted within a fixed time period in

~~the past.~~

63. A music transmission device, comprising:

receiving means for receiving a request signal from the terminal device; and

music information transmission means which transmits the music in the predetermined order if the request signal is the first type signal, and if the request signal is the second type signal, transmits the music determined at the terminal device side.

64. A music receiving device, comprising:

transmission means for transmitting the first request signal which requests the music transmission without specifying music or the second request signal which requests the music transmission specifying music; and

receiving means for receiving the music signal transmitted responding to the first or the second request signal.

65. A music receiving device, comprising:

transmission means for transmitting a request signal to request the music transmission;

receiving means for receiving the music signal responding to the request signal;

extracting means for extracting the add-on information transmitted with the music signal from the output signal of the receiving means; and

display means for selectively displaying the add-on information of the first type and the add-on information of the second type from among the add-on information.

66. The music receiving device according to claim 65, wherein

the first type add-on information is the titles of musics and the second type add-on information is words of the music.

67. The music receiving device according to claim 65, wherein

in the case of displaying the first or the second type add-on information, the display means displays different codes or characters according to the types of add-on information.

68. An information selecting method, comprising the step of:

displaying the information on which a virtual cursor is positioned by moving the virtual cursor on the two-dimensional information table in response to the input

operation; and

when the confirmation command is entered, selecting the information on which the virtual cursor is positioned.

69. A character input method, comprising the steps of:

displaying the character on which a virtual cursor is position by moving the virtual cursor on the two-dimensional information table in response to the input operation; and

when the confirmation command is entered, selecting the character on which the virtual cursor is positioned.

70. The character input method according to claim 69, wherein

the characters are Japanese Kana (phonetic words) characters and the character table is comprised of fifty phonetic words.

71. The data construction for specifying music data, characterized by:

having at least one or more units data pairing the music name with the music code added to the music; and

arranging the unit data in the desired order, and based on that order, the time sharing order of the music is specified.

72. A music specification method in utilizing the communication circuit, comprising the steps of:

transmitting material information for specifying music via the predetermined communication circuit;

receiving the music list matching to the material information via the communication circuit; and

specifying the desired music from among the music list and transmitting the information showing the specified music via the communication circuit.

73. The music specification method in utilizing the communication circuit according to claim 72, wherein

the information showing the music specified is memorized in the predetermined memory means, and the information showing the specified music is transmitted when the desired time comes.

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